

WHAT IS CLAIMED IS:

1. A radio communication system, comprising:
a first radio communication apparatus; and
a second radio communication apparatus having unique data for identifying said second radio communication apparatus, the unique data including pieces of bit data;

said first radio communication apparatus including:

transmitting means for sequentially transmitting a plurality of check pulses to said second radio communication apparatus at predetermined time intervals, each check pulse being operable to check a corresponding piece of the bit data; and

detecting means for detecting the unique data by determining each piece of the bit data based on whether there is a response from said second radio communication apparatus to each of the check pulses transmitted by said transmitting means; and

said second radio communication apparatus including:

exciting means for exciting a surface acoustic wave corresponding to each of the check pulses transmitted by said first radio communication apparatus;

setting means for setting whether to respond to a check pulse to be transmitted by said first radio communication apparatus based on a content of the piece of bit data to be checked by the check pulse to be transmitted; and

responding means for responding to a transmitted

check pulse, said responding means reflecting a surface acoustic wave corresponding to the transmitted check pulse when said setting means has made a setting to respond to the transmitted check pulse, and said responding means passing the surface acoustic wave corresponding to the transmitted check pulse when said setting means has made a setting prohibiting a response to the transmitted check pulse.

2. A method of radio communication between a first radio communication apparatus and a second radio communication apparatus having unique data for identifying the second radio communication apparatus, the unique data including pieces of bit data, said radio communication method comprising:

sequentially transmitting a plurality of check pulses from the first radio communication apparatus to the second radio communication apparatus at predetermined time intervals, each check pulse being operable to check a corresponding piece of the bit data;

setting in the second radio communication apparatus whether to respond to a check pulse to be transmitted by the first radio communication apparatus based on a content of the piece of bit data to be checked by the check pulse to be transmitted;

exciting a surface acoustic wave at the second radio communication apparatus in response to each check pulse transmitted by the first radio communication apparatus;

reflecting the excited surface acoustic wave

corresponding to a transmitted check pulse when a setting to respond to the transmitted check pulse has been set in the second radio communication apparatus, and passing the excited surface acoustic wave corresponding to the transmitted check pulse when a setting prohibiting a response to the transmitted check pulse has been set in the second radio communication apparatus; and

detecting the unique data by determining each piece of the bit data in the second radio communication apparatus based on whether there is a response from the second radio communication apparatus to each of the check pulses transmitted from the first radio communication apparatus.

3. A first radio communication apparatus for radio communication with a second radio communication apparatus having unique data for identifying the second radio communication apparatus, the unique data including pieces of bit data, said first radio communication apparatus comprising:

transmitting means for sequentially transmitting a plurality of check pulses to the second radio communication apparatus at predetermined time intervals, each check pulse being operable to excite a surface acoustic wave at the second radio communication apparatus and to check a corresponding piece of the bit data;

receiving means for receiving reflected waves emitted from the second radio communication apparatus in response to the surface acoustic waves excited by the check pulses transmitted by said transmitting means; and

detecting means for detecting the unique data by determining each piece of the bit data in the second radio communication apparatus based on whether said receiving means receives a reflected wave in response to each surface acoustic wave excited by the check pulses transmitted by said transmitting means.

4. A first radio communication apparatus as claimed in claim 3, further comprising power supply means for supplying power to the second radio communication apparatus for use in controlling the emission of the reflected waves.

5. A first radio communication apparatus as claimed in claim 4, wherein

said transmitting means transmits the check pulses as a radio wave having a first frequency; and

said power supply means supplies the power as a radio wave having an energy corresponding to the power and a second frequency different from the first frequency.

6. A first radio communication apparatus as claimed in claim 4, wherein said power supply means supplies the power as light having an energy corresponding to the power.

7. A method of radio communication with a radio communication apparatus having unique data for identifying the radio communication apparatus, the unique data including pieces of bit data, said radio communication method comprising:

sequentially transmitting a plurality of check pulses to the radio communication apparatus at predetermined time

intervals, each check pulse being operable to excite a surface acoustic wave at the radio communication apparatus and to check a corresponding piece of the bit data;

receiving reflected waves emitted from the radio communication apparatus in response to the surface acoustic waves excited by the check pulses transmitted in the transmitting step; and

detecting the unique data by determining each piece of the bit data in the radio communication apparatus based on whether a reflected wave is received in the receiving step in response to each surface acoustic wave excited by the check pulses transmitted in the transmitting step.

8. A recording medium recorded with a program for carrying out a method of radio communication with a radio communication apparatus having unique data for identifying the radio communication apparatus, the unique data including pieces of bit data, said method comprising:

generating a plurality of check pulses for sequential transmission to the radio communication apparatus at predetermined time intervals, each check pulse being operable to excite a surface acoustic wave at the radio communication apparatus and to check a corresponding piece of the bit data; and

detecting the unique data by determining each piece of the bit data in the radio communication apparatus based on whether a reflected wave is received from the radio communication apparatus in response to each surface acoustic

wave excited by the check pulses.

9. A first radio communication apparatus for radio communication with a second radio communication apparatus, said first radio communication apparatus having unique data for identifying said first radio communication apparatus, the unique data including pieces of bit data, said first radio communication apparatus comprising:

exciting means for exciting a surface acoustic wave corresponding to each of a plurality of check pulses transmitted from the second radio communication apparatus at predetermined time intervals, each check pulse being operable to check a corresponding piece of the bit data;

setting means for setting whether to respond to a check pulse to be transmitted by the second radio communication apparatus based on a content of the piece of bit data to be checked by the check pulse to be transmitted; and

responding means for responding to a transmitted check pulse, said responding means reflecting a surface acoustic wave corresponding to the transmitted check pulse when said setting means has made a setting to respond to the transmitted check pulse, and said responding means passing the surface acoustic wave corresponding to the transmitted check pulse when said setting means has made a setting prohibiting a response to the transmitted check pulse.

10. A first radio communication apparatus as claimed in claim 9, wherein said responding means includes:

a reflection electrode having a pair of terminals, said

reflection electrode reflecting the surface acoustic wave excited by said exciting means when said pair of terminals is open, and passing the surface acoustic wave excited by said exciting means when said pair of terminals is short-circuited; and

a switch connected to said pair of terminals; and

said setting means operates said switch to open said pair of terminals when said setting means makes a setting to respond to the check pulse to be transmitted, and said setting means operates said switch to short-circuit said pair of terminals when said setting means makes a setting prohibiting a response to the check pulse to be transmitted.

11. A first radio communication apparatus as claimed in claim 9, further comprising:

storing means for storing the unique data in advance; and

power providing means for providing power supplied from the second radio communication apparatus as power for use by said setting means to read the piece of bit data to be checked by the check pulse to be transmitted from the unique data stored in said storing means and to set whether to respond to the check pulse to be transmitted based on the content of the read piece of bit data.

12. A first radio communication apparatus as claimed in claim 11, wherein the second radio communication apparatus transmits the check pulses as a radio wave having a first frequency, and transmits the power supplied to said power

providing means as a radio wave having an energy corresponding to the power and a second frequency different from the first frequency.

13. A first radio communication apparatus as claimed in claim 10, wherein the second radio communication apparatus transmits the power supplied to said power providing means as light having an energy corresponding to the power.

14. A method of radio communication with a radio communication apparatus in which the radio communication apparatus detects predetermined unique data, the unique data including pieces of bit data, said radio communication method comprising:

exciting a surface acoustic wave corresponding to each of a plurality of check pulses transmitted from the radio communication apparatus at predetermined time intervals, each check pulse being operable to check a corresponding piece of the bit data;

setting whether to respond to a check pulse to be transmitted by the radio communication apparatus based on a content of the piece of bit data to be checked by the check pulse to be transmitted; and

responding to a transmitted check pulse by reflecting a surface acoustic wave corresponding to the transmitted check pulse when a setting to respond to the transmitted check pulse has been set in the setting step, and by passing the surface acoustic wave corresponding to the transmitted check pulse when a setting prohibiting a response to the transmitted check

pulse has been set in the setting step.

15. A recording medium recorded with a program for carrying out a method of radio communication between a first radio communication apparatus and a second radio communication apparatus, the second radio communication apparatus having unique data for identifying the second radio communication apparatus, the unique data including pieces of bit data, the second radio communication apparatus including an electrode for exciting a surface acoustic wave corresponding to each of a plurality of check pulses transmitted from the first radio communication apparatus at predetermined time intervals, each check pulse being operable to check a corresponding piece of the bit data, a reflection electrode having a pair of terminals, the reflection electrode reflecting the surface acoustic wave excited by the electrode when the pair of terminals is open, and passing the surface acoustic wave excited by the electrode when the pair of terminals is short-circuited, and a switch connected to the pair of terminals, said method comprising:

determining whether a response is to be made to a check pulse to be transmitted by the first radio communication apparatus based on a content of the piece of bit data to be checked by the check pulse to be transmitted, setting the switch to open the pair of terminals when it is determined that a response is to be made to the check pulse to be transmitted, and setting the switch to short-circuit the pair of terminals when it is determined that a response to the

check pulse to be transmitted is to be prohibited.